



UNITED STATES DEPARTMENT OF COMMERCE
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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/139,797 10/13/94

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EXAMINER

WILCZEWSKI, M

ART UNIT

PAPER NUMBER

4

1107

DATE MAILED:

05/26/95

SIXSEY FRIEDMAN LEEDOM AND FERGUSON
2010 CORPORATE RIDGE SUITE 600
MC LEAN VA 22102

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This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire _____ month(s), 30 days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☐ Notice of References Cited by Examiner, PTO-892.
2. ☒ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐ _____

Part II SUMMARY OF ACTION

1. ☒ Claims 1-40 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☐ Claims _____ are rejected.
5. ☐ Claims _____ are objected to.
6. ☒ Claims 1-40 are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☒ been received ☐ not been received
☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 8-23, 27-29, and 35-36, drawn to an apparatus for processing a semiconductor wafer, classified in Class 118, subclass 50.1.

II. Claims 1-7, 24-26, 30-34, and 37-40, drawn to a process of fabricating a semiconductor device, classified in Class 437, subclass 84.

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (M.P.E.P. § 806.05(e)). In this case unpatentability of the group I invention would not necessarily imply unpatentability of the Group II invention, since the process of the Group I invention can be practiced with another and materially different apparatus than those of the Group I invention, for example, the substrate can be transported by a human operator between an irradiation apparatus and a vacuum apparatus and/or separate processing apparatuses could be instead of a single multichambered apparatus.

Because these inventions are distinct for the reasons given above and, as shown by the above different classifications, the field of search are not co-extensive and separate examination would be required, restriction for examination purposes as indicated is proper.

The Group I apparatus claims are further restrictable as follows:

This application contains claims directed to the following patentably distinct species of the claimed invention: a first species of the invention recited in claims 8-15, 21-23, and 27-29 in which the apparatus comprises a light processing or irradiation chamber and an evacuable or vacuum chamber and a mechanism for moving a substrate between the two chambers; a second species of the invention recited in claims 16-20 in which the apparatus comprises a light processing apparatus, an ion introducing apparatus, and an etching apparatus all connected to a preliminary chamber; and a third species of the invention as recited in claims 35-36 in which the apparatus comprises a light processing apparatus, a vacuum processing apparatus and a film formation apparatus.

Applicant is required under 35 U.S.C. § 121 to elect a single disclosed species for prosecution on the merits to which

Art Unit 1107

the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none are generic.

Applicant is advised that a response to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 C.F.R. § 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. M.P.E.P. § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103 of the other invention.

The Group II process claims are further restrictable as follows:

This application contains claims directed to the following patentably distinct species of the claimed invention: a first species of the invention recited in claims 1-7 in which a substrate is processed in a vacuum apparatus, transported to a second apparatus and processed by a light in the second apparatus; a second species of the invention as recited in claims 30-32 in which a substrate is processed with light in a first

chamber, transported to a second chamber and processed in the second chamber and as recited in claims 33-34 and 37-38 in which a substrate is irradiated with light in an oxidizing or nitriding atmosphere followed by the deposition of a silicon oxide or silicon nitride layer on the substrate; a third species of the invention recited in claims 39 in which a silicon film is crystallizedⁱⁿ an oxidizing or nitriding atmosphere, a silicon oxide or a silicon nitride layer is formed on the silicon film by vapor phase growth, the silicon film is annealed in an hydrogen atmosphere, followed by the deposition of a second silicon oxide layer on the silicon film; and a fourth species of the invention as recited in claim 40 in which a silicon film is irradiated with lightⁱⁿ an oxidizing or nitriding atmosphere to crystallize the film and^{to} grow a silicon oxide or nitride layer on the film, the film is annealed in hydrogen and a silicon oxide or silicon nitride layer is deposited on the silicon film, wherein transportation of the substrate from one processing chamber to another is accomplished through a common chamber so that the substrate is not exposed to air.

Applicant is required under 35 U.S.C. § 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no claim is finally held to be

Art Unit 1107

allowable. Currently, the method of claims 24-26 is generic to the first and second species of the invention.

Applicant is advised that a response to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 C.F.R. § 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. M.P.E.P. § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103 of the other invention.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition

Serial No. 330,797

-7-

Art Unit 1107

under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

The drawings filed on October 28, 1994, have been object to by the Draftsperson; note attached PTO-948.

Receipt is acknowledged of papers submitted under 35 U.S.C. § 119, which papers have been placed of record in the file.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Wilczewski whose telephone number is (703) 308-2771.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.



M. Wilczewski:rg
May 23, 1995

MARY WILCZEWSKI
PRIMARY EXAMINER
GROUP 1100